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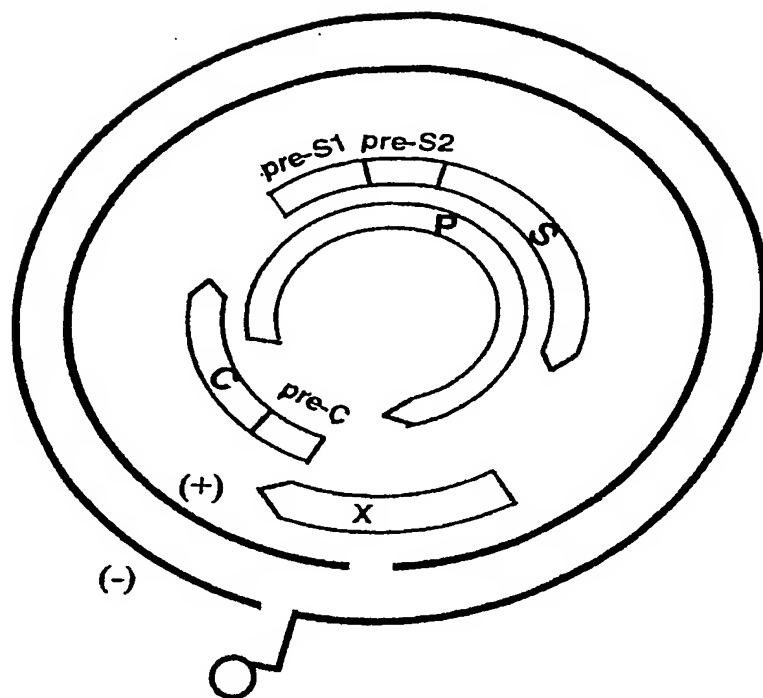


Figure 1

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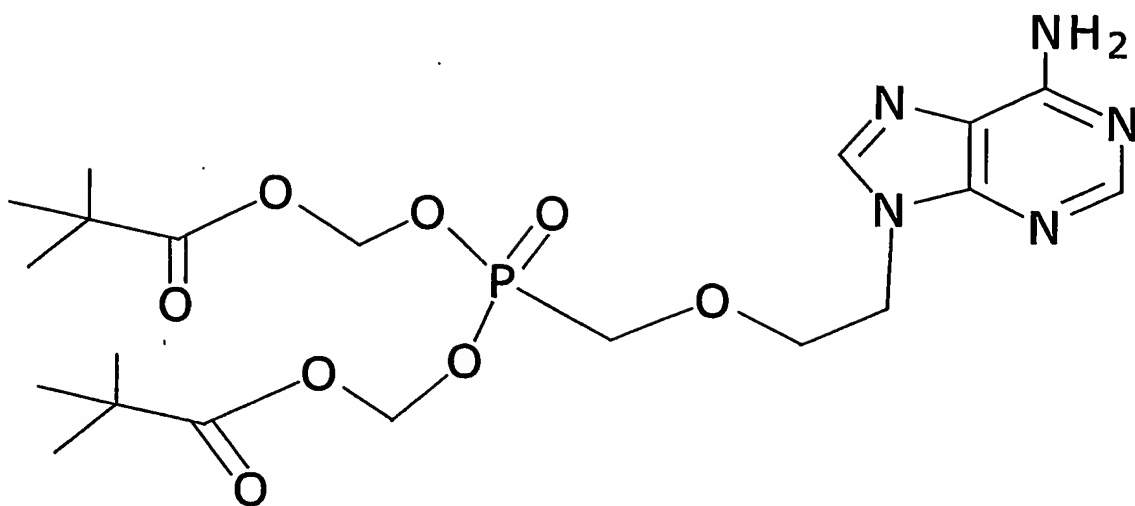


Figure 2

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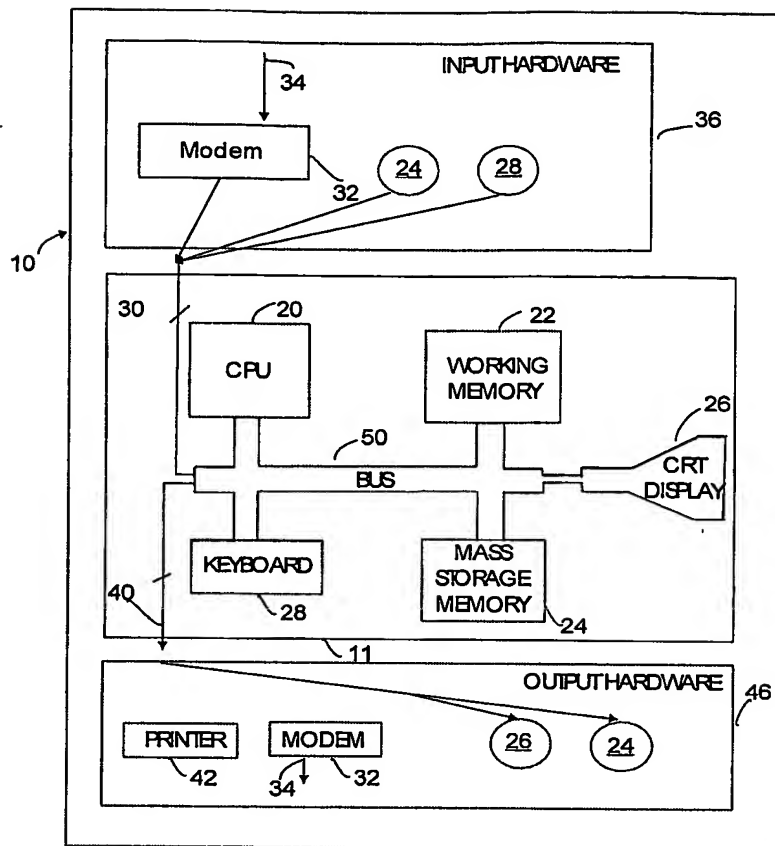


Figure 3A

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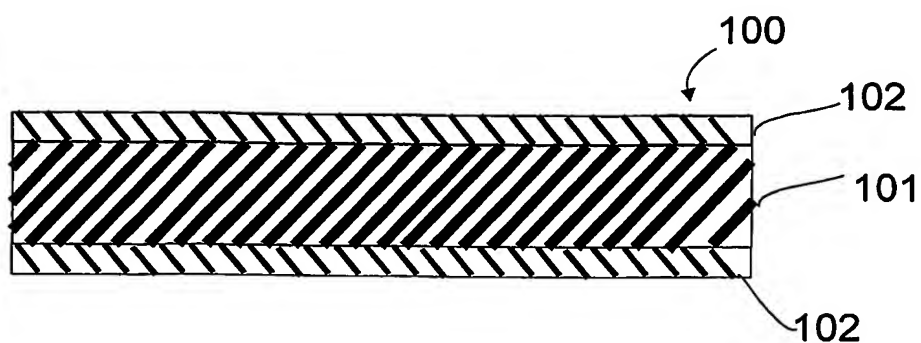


Figure 3B

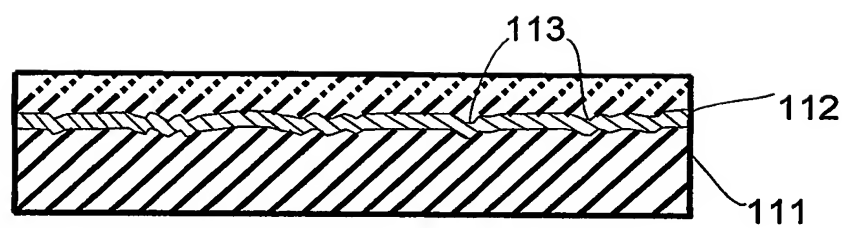


Figure 3C

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Figure 4: Patient A nt sequence

```
      10      20      30      40      50
GCTTCCACCAATCGGCAGGCAGGAAGACAGCCTACTCCCATCTCTCCACC

      60      70      80      90     100
TCTAAGAGACAGTCATCCTCAGGCCATGCAGTGGAACCTCCAGCACATTCC

     110     120     130     140     150
ACCATGCTCTGCTAGATCCCAGACCTGCTGGTGGCTCCAGTTCCGGAACA

     160     170     180     190     200
GTAAACCCTGTTCCGACTACTGCCTCTCCCATATCGTCAATCTTCTCGAG

     210     220     230     240     250
GACTGGGGACCCTGCGCCGAATATGGAGAGCACCACATCAGGATTCCTAG

     260     270     280     290     300
GACCCCTGCTCGTGTTACAGGCGGGGTTTTTCTTGTTGACAAGAATCCTC

     310     320     330     340     350
ACAATACCAAAGAGTCTAGACTCGTGGTGGACTTCTCTCAATTTTCTAGG

     360     370     380     390     400
GGGAGCACCCACGTGTCCTGGCCAAAATTTGCAGTCCCCAACCTCCAATC

     410     420     430     440     450
ACTCACCAACCTCTTGTCCTCCAATTGTCCTGGTTATCGCTGGATGTGT

     460     470     480     490     500
CTGCGGCGTTTTATCATCTTCCTCTTCATCCTGCTGCTATGCCTCATCTT

     510     520     530     540     550
CTTGTTGGTTCTTCTGGACTACCAAGGTATGTTGCCCGTTTGTCTCTAC

     560     570     580     590     600
TTCCAGGAACATCAACTACCAGCACGGGACCATGCAAGACCTGCACGACT

     610     620     630     640     650
CCTGCTCAAGGAACCTCTATGTTTCCCTCTTGTTGCTGTACAAAACCTTC

     660     670     680     690     700
GGACGGAAATTGCACTTGTATTCCCATCCCATCATCTTGGGCTTTCGTAA

     710     720     730     740     750
GATTCTATGGGAGTGGGCCTCAGTCCGTTTCTCTGGTTTCAGTTTACTA

     760     770     780     790     800
GTGCCATTTGTTTCAGTGGTTTCGTAGGGCTTCCCCCACTGTTTGGCTTTC

     810     820     830     840     850
```

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AGTTATATGGATGATGTGGTATTGGGGGCCAAGTCTGTACAACATCTTGA
860 870 880 890 900
ATCCCTTTATACCGCTATTACCAATTTTCTTTTGTCTTTGGGTATACATT
910 920 930 940 950
TAAACCCTAATAAAACCAAGCGTTGGGGCTACTCCCTTAACTTCATGGGA
960 970 980 990 1000
TATGTAATTGGAAGTTGGGGTACCTTGCCACAGGAACATATTGTACAAAA
AATCAAA

Figure 4

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Figure 5: Patient A. HBV Polymerase sequence

```
      10      20      30      40      50
EDWGPCA EYGEHHIRIPRTPARVTGGVFLVDKNPHNTKESRLVVDFSQFS

      60      70      80      90     100
RGSTHVSWPKFAVPNLQSLTNLLSSNLSWLSLDVSAAFYHLPLHPAAMPH

     110     120     130     140     150
LLVGSSGLPRYVARLSSTSRNINYQHGTMQDLHDSCSRNLYVSLLLLYKT

     160     170     180     190     200
FGRKLHLYSHPIILGFRKIPMGVGLSPFLLVQFTSAICSVVRRAFPCLA

     210     220     230     240     250
FSYMDDVVLGAKSVQHLESlyTAITNfLLSLGIHLNPNKTKRWGYSlnFM

     260     270
GYVIGSWGTLpQEHIVQKIK
```

Figure 5

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Figure 6: Patient A HBV HbsAg sequence

```
      10      20      30      40      50
MESTTSGFLGPLLVLQAGFFLLTRILTIPKSLDSWWTSLNFLGGAPTCPG

      60      70      80      90     100
QNLQSPTSNHSP TSCPPICPGYRWMCLRRFIIFFLEFILLCLIFLLVLLDY

     110     120     130     140     150
QGMLPVCPLLP GTSTTSTGPCKTCTTPAQGTSMFPSCCCTKPSDGNCTCI

     160     170     180     190     200
PIPSSWAFVRFLWEWASVRFSWFSLLVPFVQWFVGLSPTVWLSVIWMMWY

     210     220
WGPSLYNINLPFIPLLPIFFCLWVYI
```

Figure 6

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Figure 7: Patient B HBV NT sequence

```
      10      20      30      40      50
TCTGTCTCCACCTTTGAGAGACACTCATCCTCAGGCCATGCAGTGGAAC

      60      70      80      90     100
CCACAACCTTCCACCAAACCTCTGCAAGATCCCAGAGTGAGAGGCCTGTAT

     110     120     130     140     150
TTCCCTGCTGGTGGCTCCAGTTCAGGAACAGTAAACCCTGTTCCGACTTC

     160     170     180     190     200
TGTCTCTCACACATCGTCAATCTTCTCGAGGATTGGGGTCCCTGCGCTGA

     210     220     230     240     250
ACATGGAGAACATCACATCAGGATTCCTAGGACCCCTGCTCGTGTTACAG

     260     270     280     290     300
GCGGGGTTTTTCTTGTTGACAAGAATCCTCACAATACCGCAGAGTCTAGA

     310     320     330     340     350
CTCGTGGTGGACTTCTCTCAATTTCTAGGGGGAACCTACCGTGTGTCTTG

     360     370     380     390     400
GCCAAAATTCGCAGTCCCCAACCTCCAATCACTCACCAACCTCCTGTCCT

     410     420     430     440     450
CCAACTTGTCCTGGTTATCGCTGGATGTATCTGCGGCGTTTTATCATCTT

     460     470     480     490     500
CCTCTTCATCCTGCTGCTATGCCTCATCTTCTTGTTGGTTCTTCTGGACT

     510     520     530     540     550
ATCAAGGTATGTTGCCGTTTGTCTCTAATTCCAGGATCTTCAACCACC

     560     570     580     590     600
AGCACGGGACCATGCAGAACCTGCACGACTCCTGCTCAAGGAAACTCTAT

     610     620     630     640     650
GTATCCCTCCTGTTGCTGTACCAAACCTTCGGACGGAAATTGCACCTGTA

     660     670     680     690     700
TTCCCATCCCATCATCCTGGGCTTTCGGAAAATTCCTATGGGAGTGGGCC

     710     720     730     740     750
TCAGCCCGTTTCTCCTGGCTCAGTTTACTAGTGCCATTTGTTCAGTGGTT
```

Figure 7

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```
      760      770      780      790      800
CGTAGGGCTTTCCCCCACTGTTTGGCTTTCAGTTATATGGATGATGTGGT

      810      820      830      840      850
ATTGGGGGCCAAGTCTGTATCGCATCTTGAGTCCCTTTTTACCGCTGTTA

      860      870      880      890      900
CCAATTTTCTTTTGTCTTTGGGTATACATTTAAACCCTCACAAAACAAAA

      910      920      930      940      950
AGATGGGGTCACTCTTTACATTTTCATGGGCTATGTCATTGGATGTTATGG

      960      970      980
GTCATTGCCACAAGATCACATCAGACAGAAAA
```

Figure 7 continued

11 of 55**Figure 8: Patient B POLYMERASE sequence**

```
      10      20      30      40      50
EDWGPCAEGEHHIRIPRTPARVTGGVFLVDKNPHNTAESRLVVDFSQFS

      60      70      80      90     100
RGN YRVSWPKFAVPNLQSLTNLLSSNLSWLSLDVSAAFYHLPLHPAAMPH

     110     120     130     140     150
LLVGSSGLSRYVARLSSNSRIFNHQHGTMQNLHDSCSRKLYVSLLLLYQT

     160     170     180     190     200
FGRKLHLYSHPIILGFRKIPMGVGLSPFLLAQFTSAICSVVRRAFPCLLA

     210     220     230     240     250
FSYMDDVVLGAKSVSHLESLEFTAVTNFLLSLGIHLNPHKTKRWGHSLSLHFM

     260
GYVIGCYGSLPQDHIRQK
```

Figure 8

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Figure 9: Patient B HBsAG sequence

```
      10      20      30      40      50
MENITSGFLGPLLVLQAGFFLLTRILTIPQSLDSWWTSLNFLGGTTVCLG

      60      70      80      90     100
QNSQSPTSNHSPTSCPPTCPGYRWMYLRRFIIFFLEFILLCLIFLLVLLDY

     110     120     130     140     150
QGMLPVCPLIPGSSTTSTGPCRTCTTPAQGNSMYPSCCCTKPSDGNCTCI

     160     170     180     190     200
PIPSSWAFGKFLWEWASAREFSWLSLLVPFVQWFVGLSPTVWLSVIWMMWY

     210     220
WGPSLYRILSPFLPLLPIFFCLWVYI
```

Figure 9

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Figure 10: Patient C HBV NT sequence

```
      10      20      30      40      50
CAGCAGCGCCTCCTCCTGCCTCCTCCAATCGGCAGTCAGGAAGACAGCCT

      60      70      80      90     100
ACTCCCATCTCTCCACCTCTAAGAGACAGTCATCCTCAGGCCATGCAGTG

     110     120     130     140     150
GAACTCCAGCACATTCCACCAAGCTCTGCTAGATCCCAGAGTGAGGGGCC

     160     170     180     190     200
TATATTTTCCTGCTGGTGGCTCCAGTTCCGGAACAGTAAACCCTGTTCCG

     210     220     230     240     250
ACTACTGCCTCTCCCATATCGTCAATCTTCTCGAGGACTGGGGACCCTGC

     260     270     280     290     300
ACCGAACATGGAGAGCACCACATCAGGATTCCTAGGACCCCTGCTCGCGT

     310     320     330     340     350
TACAGGCGGGGTTTTTCTTGTTGACAAGAATCCTCACAATACCACAGAGT

     360     370     380     390     400
CTAGACTCGTGGTGGACTTCTCTCAATTTTCTAGGGGGAACACCCAAGTG

     410     420     430     440     450
TCCTGGCCAAAATTTGCAGTCCCCAACCTCCAATCACTACCAACCTCTT

     460     470     480     490     500
GTCCTCCAATTTGTCTGGTTATCGCTGGATGTGTCTGCGGCGTTTTATC

     510     520     530     540     550
ATCTTCCTCTTCATCCTGCTGCTATGCCTCATCTTCTTGTGGGGTCTTCT

     560     570     580     590     600
GGACTACCAAGGTATGTTGCCCGTTTGTCTCTACTTCCAGGAACATCAA

     610     620     630     640     650
CTACCAGCACGGGACCATGCAAGACCTGCACGACTCCTGCTCAAGGAACC

     660     670     680     690     700
TCTATGTTTCCCTCTTGTTGCTGTACAAAACCTTCGGACGGAAATTGCAC
```

Figure 10

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710 720 730 740 750
TTGTATTCCCATCCCATCATCTTGGGCTTTCGCAAGATTCCTATGGGAGT

760 770 780 790 800
GGGCCTCAGTCCGTTTCTCCTGGCTCAGTTTACTAGTGCCATTTGTTTCAG

810 820 830 840 850
TGGTTCGTAGGGCTTTCCCCACTGTTTGGCTTTTAGTTATATGGATGAT

860 870 880 890 900
GTGGTATTGGGGGCCAAGTCTGTACAACAYCTTGAATCCCTTTTACC GC

910 920 930 940 950
TGTTACCAATTTTCTTTTGTCTTTGGGTATACATTTAAACCCTACTAAAA

960 970 980 990 1000
CCAAACGTTGGGGCTACTCCCTTAACTTCATGGGATATGTAATTGGAAGT

1010 1020 1030 1040
TGGGGTACCTTACCACAAGAACATATTGTACACAAAATCAGACAA

Figure 10 continued

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Figure 11: Patient C Polymerase sequence

```
      10      20      30      40      50
EDWGPCTEHGEHHIRIPRTPARVTGGVFLVDKNPHNTTESRLVVDFSQFS

      60      70      80      90     100
RGNTQVSWPKFAVPNLQSLTNLLSSNLSWLSLDVSAAFYHLPLHPAAMPH

     110     120     130     140     150
LLVGSSGLPRYVARLSSTSRNINYQHGTMQDLHDSCSRNLYVSLLLLYKT

     160     170     180     190     200
FGRKLHLYSHPIILGFRKIPMGVGLSPFLLAQFTSAICSVVRRAFPCLA

     210     220     230     240     250
FSYMDDVVLGAKSVQHLESLEFTAVTNFLLSLGIHLNPTKTKRWGYSNFM

     260     270
GYVIGSWGTLPPQEHIVHKIRQ
```

Figure 11

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Figure 12 Patient C HbsAg sequence

```
      10      20      30      40      50
MESTTSGFLGPLLALQAGFFLLTRILTIPQSLDSWWTSLNFLGGTPKCPG

      60      70      80      90     100
QNLQSPTSNHSP TSCPPICPGYRWMCLRRFIIFFL FILL LCLIFLWGLLDY

      110     120     130     140     150
QGMLPVCPLLPGTSTTSTGPCKTCTTPAQGTSMFPSCCCTKPSDGNCTCI

      160     170     180     190     200
PIPSSWAFARFLWEWASVRFSWLSLLVPFVQW FVGLSPTVWLLVIWMMWY

      210     220
WGPSLYNXLNPFLPLLPIFFCLWVYI
```

Figure 12

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Figure 13; Patient D NT sequence

```
      10      20      30      40      50
CTCCTGCATCTACCAATCGGCAGTCAGGAAGACAGCCTACTCCCATCTCT

      60      70      80      90     100
CCACCTCTAAGAGACAGTCATCCTCAGGCCATGCAGTGGAAGTCCACAAC

     110     120     130     140     150
TTTCCACCAAGCTCTGCTAGATCCCCGAGTGAGGGGCCTCTATTTTCCTG

     160     170     180     190     200
CTGGTGGCTCCAGTTCGGGACAGTAAACCCTGTTCCGACTACTGCCTCT

     210     220     230     240     250
CCCATATCGTCAATCTTCTCGAGGACTGGGGACCCTGCACTGAACATGGA

     260     270     280     290     300
GAGCACAACATCAGGATTCTTAGGACCCCTGCTCGTGTTACAGGCGGTGT

     310     320     330     340     350
TTTTCTTGTTGACAAGAATCCTCACAATACCACAGAGTCTAGACTCGTGG

     360     370     380     390     400
TGGACTTCTCTCAATTTTCTAGGGGAAGCACCCGCGTGTCCTGGCCAAAA

     410     420     430     440     450
TTCGCAGTCCCCAACCTCCAATCACTACCAACCTCTTGTCCTCCAATTT

     460     470     480     490     500
GTCCTGGCTATCGCTGGATGTGTCTGCGGCGTTTTATCATCTTCCTCTTC

     510     520     530     540     550
ATCCTGCTGCTATGCCTCATCTTCTTGTTGGTTCTTCTGGATTACCAAGG

     560     570     580     590     600
TATGTTGCCCGTTTGTCTCTACTTCCAGGAACGTCAACTACCAGCACGG

     610     620     630     640     650
GACCATGCAAGACCTGCACGATTCCTGCTCAAGGAACCTCTATGTTTCCC

     660     670     680     690     700
TCATGTTGCTGTACAAAACCTTCGGACGGAACTGCACTTGTAATCCCAT

     710     720     730     740     750
CCCATCATCCTGGGCTTTCGCAAGATTCTATGGGAGTGGGCCTCAGTCC
```

Figure 13

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760 770 780 790 800
GTTTCTCTTGACTCAGTTTACTAGTGCCATTTGTTTCAGTGGTTCGTAGGG

810 820 830 840 850
CTTTCCCCCACTGTTTGGCTTTCAGTTATATGGATGATGTGGTATTGGGG

860 870 880 890 900
GCCAAGTCTGTACAACATCTTGAGTCCCTTTATACCGCTATTACCAATTT

910 920 930 940 950
TCTTTTGTCTTTGGGTATACATTTAAACCCTAATAAAACCAAGCGATGGG

960 970 980 990 1000
GTTACTCCCTTAACTTCATGGGATATGTCATTGGAAGTTGGGGGACTTTA

1010 1020
CCACAGGAACATATTGTGCTC

Figure 13 continued

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Figure 14: patient D HBV POL sequence

```
      10      20      30      40      50
EDWGPCTEHGEHNIRIPRTPARVTGGVFLVDKNPHNTTESRLVVDFSQFS

      60      70      80      90     100
RGSTRVSWPKFAVPNLQSLTNLLSSNLSWLSLDVSAAFYHLPLHPAAMPH

     110     120     130     140     150
LLVGSSGLPRYVARLSSTSRNVNYQHGTMQDLHDSCSRNLYVSLMLLYKT

     160     170     180     190     200
FGRKLHLYSHPIILGFRKIPMGVGLSPFLLTQFTSAICSVVRRAFPCLLA

     210     220     230     240     250
FSYMDDVVLGAKSVQHLESlyTAITNfLLSLGIHLNPnkTKRWGYSlnFM

     260
GYVIGSWGTLpQEHIVL
```

Figure 14

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Figure 15 Patient D HBsAg sequence

```
      10      20      30      40      50
MESTTSGFLGPLLVLQAVFFLLTRILTIPQSLDSWWTSLNFLGEAPACPG

      60      70      80      90     100
QNSQSPTSNHSP TSCPPICPGYRWMCLRRFIIFFL FILLCLIFLLVLLDY

     110     120     130     140     150
QGMLPVCPLLPGTSTTSTGPCKTCTIPAQGTSMFPSCCCTKPSDGNCTCI

     160     170     180     190     200
PIPSSWAFARFLWEWASVRFS*LSLLVPFVQWFEVGLSPTVWLSVIWMMWY

     210     220
WGPSLYNILSPFIPLLPIFFCLWVYI
```

Figure 15

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Figure 16: Patient E HBV nt sequence

```
      10      20      30      40      50
AGTCATCCTCAGGCCATGCAGTGGAAGTCCAGCACATTCCACCAAGCTCT

      60      70      80      90     100
GCTAGATCCCAGAGTGAGGGGCGCTATACTTTCCTGCTGGTGGCTCCAGTT

     110     120     130     140     150
CAGGAACAGTAAACCCGTGTTCCGACTACTGCCTCTCCCATATCGTCAATC

     160     170     180     190     200
TTCTCGAGGACTGGGGACCCCTGCACCGAATATGGAGAGCACCACATCAGG

     210     220     230     240     250
ATTCCTAGGACCCCTGCTCGTGTTACAGGCGGGGTTTTTCTTGTTGACAA

     260     270     280     290     300
GAATCCTCACAATACCACAGAGTCTAGACTCGTGGTGGACTTCTCTCAAT

     310     320     330     340     350
TTTCTAGGGGGAGCACCCGCGTGTCCTGGCCAAAATTTGCAGTCCCCAAC

     360     370     380     390     400
CTCCAATCACTCACTAACCTCTTGTCCTCCAATTTGTCCTGGTTATCGCT

     410     420     430     440     450
GGATGTGTCTGCGGCGTTTTATCATCTTCCTCTTCATCCTGCTGCTATGC

     460     470     480     490     500
CTCATCTTCTTGTTGGTTCTTCTGGACTACCAAGGTATGTTGCCCGTTTG

     510     520     530     540     550
TCCTCTACTTCCAGGAACATCAACTACCAGCACGGGACCATGCAAGACCT

     560     570     580     590     600
GCACGACTCCTGCTCAAGGAACCTCTATGTTTCCCTCTTGTTGTTGTACA

     610     620     630     640     650
AAACCTTCGGACGGAAATTGCACTTGATTTCCCATCCCATCATCTTGGGC

     660     670     680     690     700
TTTCGCAAGATTCCATATGGGAGTGGGCCTCAGTCCGTTTCTCATGGCTCA
```

Figure 16

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710 720 730 740 750
GTTTACTAGTGCCATTTGTTTCAGTGGTTCGTAGGGCTTTCCCCCACTGTT

760 770 780 790 800
TGGTTTTTCAGTTATGTGGATGATGTGGTATTGGGGGCCAAGTCTGCACAA

810 820 830 840 850
CATCTTGAATCCCTTTTTACCGCTATTACCAATTTTCTTTTGTCTTTGGG

860 870 880 890 900
TATACATTTAAACCMTAATAAAACCAAACGTTGGGGCTATTCCCTTAACT

910 920 930 940 950
TTATGGGATATGGAATTGGAAGTTGGGGTCCTGCCCAGGGAAGATGGCAG

GGG

Figure 16 continued

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Figure 17 Patient E: HBV polymerase

10 20 30 40 50
SSSGHAVELQHIPPSSARSQSEGPILSCWWLQFRNSKPCSDYCLSHIVNL

60 70 80 90 100
LEDWGPCTEYGEHHIRIPRTPARVTGGVFLVDKNPHNTTESRLVVDFSQF

110 120 130 140 150
SRGSTRVSWPKFAVPNLQSLTNLLSSNLSWLSLDVSAAFYHLPLHPAAMP

160 170 180 190 200
HLLVGSSGLPRYVARLSSTSRNINYQHGTMQDLHDSCSRNLYVSLLLLYK

210 220 230 240 250
TFGRKLHLYSHPIILGFRKIPMGVGLSPFLMAQFSAICSVVRRAFPCL

260 270 280 290 300
VFSYVDDVVLGAKSAQHLESLETAITNFLSLGIHLNXNKTKRWGYSLNF

MGYGIGSWG

Figure 17

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Figure 18: Patient E HBsAg

10 20 30 40 50
QPTPISPLRDSHPQAMQWNSSTFHQALLDPRVRGLYFPAGGSSSGTVNP

60 70 80 90 100
VPTTASPISSIFSRTGDPAPNMESTTSGFLGPLLVLQAGFFLLTRILTIP

110 120 130 140 150
QSLDSWWTSLNFLGGAPACPGQNLQSPTS NHSLTSCPPICPGYRWMCLRR

160 170 180 190 200
FIIFLFILLLLCLIFLLVLLDYQGMLPVCPLLPGTSTTSTGPCKTCTTPAQ

210 220 230 240 250
GTSMFPPSCCCTKPSDGNCTCIPIPSSWAFARFLWEWASVRFSWLSLLVPF

260 270 280 290 300
VQWFVGLSPTVWF SVMMMWYWGPSLHNILNPFLPLLPIFFCLWVYI*TX

IKPNVGA

Figure 18

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Figure 19: Patient F: nt sequence

```
      10      20      30      40      50
CCAATCGGCAGTCAGGAAGACAGCCTACTCCCATCTCTCCACCTCTAAGA

      60      70      80      90     100
GACAGTCATCCTCAGGCCATGCAGTGGAATCCAGCACATTCCACCAAGC

     110     120     130     140     150
TCTGCTAGATCCCAGAGTGAGGGGCCTATACTTTCCTGCTGGTGGCTCCA

     160     170     180     190     200
GTTCCGGAACAGTAAACCTGTTCCGACTACTGCCTCTCCCATATCGTCA

     210     220     230     240     250
ATCTTCTCGAGGACTGGGGACCCTGCACCGAATATGGAGAGCACCACATC

     260     270     280     290     300
AGGATTCTTAGGACCCCTGCTCGTGTACAGGCGGGGTTTTTCTTGTTGA

     310     320     330     340     350
CAAGAATCCTCACAAATACCACAGAGTCTAGACTCGTGGTGGACTTCTCTC

     360     370     380     390     400
AATTTTCTAGGGGGAGCACCCACGTGTCTGGCCAAAATTTGCAGTCCCC

     410     420     430     440     450
AACCTCCAATCACTCACCAACCTCTTGTCTCCAATTTGTCCTGGTTATC

     460     470     480     490     500
GCTGGATGTGTCTGCGGCGTTTTATCATCTTCCTCTTCATCCTGCTGCTA

     510     520     530     540     550
TGCCTCATCTTCTTGTTGGTTCTTCTGGACTACCAAGGTATGTTGCCCGT

     560     570     580     590     600
TTGTCCTCTACTTCCAGGAACATCAACTACCAGCACGGGACCATGCAAGA

     610     620     630     640     650
CCTGCACGACTCCTGCTCAAGGAACCTCTATGTTTCCCTCTTGTTGCTGT
```

Figure 19

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660 670 680 690 700
ACAAAACCTTCGGACGGAAATTGCACTTGTATTCCCATCCCATCATCTTG

710 720 730 740 750
GGCTTTCGCAAGATTCCTATGGGAGTGGGCCTCAGTCCGTTTCTCCTGGC

760 770 780 790 800
TCAGTTTACTAGTGCCATTTGTTTCAGTGGTTCGTAGGGCTTTCCCCCACT

810 820 830 840 850
GTTTGGCTTTCAGTTATATGGATGATGTGGTATTGGGGCCAAGTCTGTA

860 870 880 890 900
CAACATCTTGAATCCCTTTTTACCGCTGTTACCAATTTTCTTTTGTCTTT

910 920 930 940 950
GGGTATACATTTAAACCCTACTAAACTAAACGTTGGGGCTACTCCCTTA

960 970 980
ACTTCATGGGATATGTAATTGGAAGTTGGGGTACCTTG

Figure 19 continued

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Figure 20 Patient F Pol Amino acid sequence

10	20	30	40	50
EDWGPCTEYGEHHIRIPRTPARVTGGVFLVDKNPHNTTESRLVVDFSQFS				
60	70	80	90	100
RGSTHVSWPKFAVPNLQSLTNLLSSNLSWLSLDVSAAFYHLPLHPAAMPH				
110	120	130	140	150
LLVGSSGLPRYVARLSSTSRNINYQHGTMQDLHDSCSRNLYVSLLLLYKT				
160	170	180	190	200
FGRKLHLYSHPIILGFRKIPMGVGLSPFLLAQFTSAICSVVRRAFPCLLA				
210	220	230	240	250
FSYMDDVVLGAKSVQHLESLEFTAVTNFLLSLGIHLNPTKTKRWGYSLNFM				
GYVIGSWG				

Figure 20

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Figure 21 Patient F HBsAg seq

```
      10      20      30      40      50
MESTTSGFLGPLLVLQAGFFLLTRILTIPQSLDSWWTSLNFLGGAPTCPG

      60      70      80      90     100
QNLQSPTSNHSPTSCPPICPGYRWMCLRRFIIFLFILLLLCLIFLLVLLDY

     110     120     130     140     150
QGMLPVCPLLPGTSTTSTGPCKTCTTPAQGTSMFPSCCCTKPSDGNCTCI

     160     170     180     190     200
PIPSSWAFARFLWEWASVRFSWLSLLVPFVQWFVGLSPTVWLSVIWMMWY

     210     220
WGPSLYNIIILNPFLPLLPIFFCLWVYI
```

Figure 21

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Figure 22: Patient G ;HBV nt

```

      10      20      30      40      50
TCCGCCTCCTGCCTCCACCAATCGCCAGTCAGGAAGGCAACCTACCCCGC

      60      70      80      90     100
TCTCTCCACCTTTGAGAGACACTCATCCTCAGGCCGTGCAGTGGAATCC

      110     120     130     140     150
ACAACCTTCCACCAAACCTCTGCAAGATCCCAGAGTGAGGGGCCTGTATCT

      160     170     180     190     200
CCCTGCTGGTGGCTCCAGTTCAGGAACAGCAAACCCTGTTCCGACTACTG

      210     220     230     240     250
CCTCTCGCTTATCGTCAATCTTCTCGAGGATTGGGGACCCTGCGCTGAAC

      260     270     280     290     300
ATGGAGAACATCACATCAGGACTCCTAGGACCCCTTCTCGTGTTACAGGC

      310     320     330     340     350
GGGGTTTTTCTTGTGACAAGAATCCTCACAATACCGCAGAGTCTAGACT

      360     370     380     390     400
CGTGGTGGACTTCTCTCAGTTTTCTAGGGGGAACACCGTGTGTCTTGGC

      410     420     430     440     450
CAAAATTCGCGGTCCCCAACCTCCAATCACTCACCAACCTCCTGTCCTCC

      460     470     480     490     500
GACTTGTCCTGGTTATCGCTGGATGTATCTGCGGCGTTTTATCATATTCC

      510     520     530     540     550
TCTTCATCCTGCTGCTATGCCTCATCTTCTTGTGGTTCTTCTGGACTAT

      560     570     580     590     600
CAAGGTATGTTGCCCCTTGTCTCTAATTCCAGGATCCTCAACCACCAG

      610     620     630     640     650
CACGGGAACATGCCGAACCTGCACGACTCCTGCTCAAGGAACCTCTATGT

      660     670     680     690     700
ATCCCTCCTGTTGCTGTACCAAACCTTCGGACGGAAATTGCACCTGTATT
```

Figure 22

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710 720 730 740 750
CCCATCCCATCATCTTGGGCTTTTCGGAAAATTCCTATGGGAGTGGGCCTC

760 770 780 790 800
AGCCCGTTTCTCCTGGCTCAGTTTACTAGTGCCATTTGTTTCAGTGGTTCG

810 820 830 840 850
TAGGGCTTTCCCCCACTGTTTGGCTTTTCAGTTATATGGATGATGTGGTAT

860 870 880 890 900
TGGGGGCCAAGTCTGTACAGCATCTTGAGTCCCTTTTTACCGCTGTTACC

910 920 930 940 950
AATTTTCTTTTGTCTTTGGGTATACATTTAACCCTAACAAAACAAAGAG

960 970 980 990 1000
ATGGGGTTACTCTCTAAATTTTATGGGCTATGTCATTGGAAGTTATGGGT

1010 1020 1030 1040
CCTTGCCACAAGAACACATTATACTAAAAATCAAAGATTGTTT

Figure 22 continued

31 of 55**Figure 23 Patient G HBV POL**

10 20 30 40 50
EDWGPCAEGHEHHIRTPRTPSRVTGGVFLVDKNPHNTAESRLVVDFSQFS

60 70 80 90 100
RGNYRVSWPKFAVPNLQSLTNLLSSDLSWLSLDVSAAFYHIPLHPAAMPH

110 120 130 140 150
LLVGSSGLSRYVARLSSNSRILNHQHGMPNLHDSCSRNLYVSLLLLYQT

160 170 180 190 200
FGRKLHLYSHPIILGFRKIPMGVGLSPFLLAQFTSAICSVVRRAFPCLLA

210 220 230 240 250
FSYMDDVVLGAKSVQHLESLEFTAVTNFLLSLGIHLTPNKTKRWGYSLNFM

GYVIGSYG

Figure 23

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Figure 24: Patient G HbsAg

10 20 30 40 50
MENITSGLLGPLLVLQAGFFLLTRILTIPQSLDSWWTSLSLGTTVCLG

60 70 80 90 100
QNSRSPTSNHSPTSCPPTCPGYRWMYLRRFIIFLFILLCLIFLLVLLDY

110 120 130 140 150
QGMLPVCPLIPGSSTTSTGTCRTCTTPAQGTSMPSCCCTKPSDGNCTCI

160 170 180 190 200
PIPSSWAFGKFLWEWASARFSWLSLLVPFVQWFVGLSPTVWLSVIWMMWY

210 220
WGPSLYSILSPFLPLLPIFFCLWVYI

Figure 24

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Figure 25 Patient H nt seq

```
      10      20      30      40      50
CGCCTCCTGCCTCCACCAATCGCCAGTCAGGAAGGCAGCCGACCCCACTG

      60      70      80      90     100
TCTCCACCTTTGAGAGACACTCATCCTCAGGCCGTGCAGTGGAACCTCCAC

     110     120     130     140     150
AACCTTCCACCAAACCTCTGCAAGATCCCAGAGTGAGAGGCCTGTATTTC

     160     170     180     190     200
CTGCTGGTGGCTCCAGTTCAGGAACAGTAAACCCTGTTCCGACCACTGCC

     210     220     230     240     250
TCTCCCTTATCGTCAATCTTCTCGAGGATTGGGGACCCCTGCGCTGAACAT

     260     270     280     290     300
GGAGAACATCACATCAGGATTCCTAGGACCCCTTCTCGTGTTACAGGCGG

     310     320     330     340     350
GGTTTTTCTTGTTGACAAGAATCCTCACAATACCGCAGAGTCTAGACTCG

     360     370     380     390     400
TGGTGGACTTCTCTCAGTTTTCTAGGGGAAACCACCGTGTGTCTTGGCCA

     410     420     430     440     450
AAATTGCGAGTCCCCAACCTCCAATCACTCACCAACCTCCTGTCTCTCCAA

     460     470     480     490     500
CTTGTCCTGGTTATCGCTGGATGTGTCTGCGGCGTTTTATCATATTCCTC

     510     520     530     540     550
TTCATCCTGCTGCTATGCCTCATCTTCTTGTTGGTTCTTCTGGACTATCA

     560     570     580     590     600
AGGTATGTTGCCCGTTTGTCTCTAATTCCAGGATCCTCAACCACCAGCA

     610     620     630     640     650
CGGGACCATGCCGAACCTGCACGACTCCTGCTCAAGGAACCTCTATGTAT

     660     670     680     690     700
CCCTCCTGTTGCTGTACCAAACCTTCGGACGGAAATTGCACCTGTATTCC
```

Figure 25

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```

      710      720      730      740      750
CATCCCATCATCTTGGGCTTTCGAAAATTCCCTATGGGAGTGGGGCTCAG

      760      770      780      790      800
CCCGTTTCTCATGGCTCAGTTTACTAGTGCCATTTGTTTCAGTGGTTCGTA

      810      820      830      840      850
GGGCTTTCCCCCACTGTTTGGCTTTCAGTTATGTGGATGATGTGGTATTG

      860      870      880      890      900
GGGGCCAAGTCTGTATCGCATCTTGAGTCCCTTTTTACCGCTGTTACCAA

      910      920      930      940      950
TTTTCTTTTGTCTTTGGGTATACATTTAAACCCTAACAAAACGAAAAGAT

      960      970      980      990     1000
GGGGTTACTCTTTAAATTTTATGGGGTATGTTATTGGATGTTATGGGTCC

      1010     1020
TTGCCACAAGAACACATCGTACAAAAA
```

Figure 25 continued

35 of 55**Figure 26: Patient H HBV pol**

```
      10      20      30      40      50
EDWGPCAEGEHHIRIPRTPSRVTTGGVFLVDKNPHNTAESRLVVDFSQFS

      60      70      80      90     100
RGNHRVSWPKFAVPNLQSLTNLLSSNLSWLSLDVSAAFYHIPLHPAAMPH

      110     120     130     140     150
LLVGSSGLSRYVARLSSNSRILNHQHGTMPNLHDSCSRNLYVSLLLLYQT

      160     170     180     190     200
FGRKLHLYSHPIILGFRKIPMGVGLSPFLMAQFTSAICSVVRRAFPCLLA

      210     220     230     240     250
FSYVDDVVLGAKSVSHLESLEFTAVTNFLLSLGIHLNPNKTKRWGYSLNFM

      260
GYVIGCYGSLPQEH
```

Figure 26

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Figure 27: Patient H HBsAg

10 20 30 40 50
MENITSGFLGPLLVLQAGFFLLTRILTIPQSLDSWWTSLSFLGETTVCLG

60 70 80 90 100
QNSQSPTSNHSPTSCPPTCPGYRWMCLRRFIIFFILLCLIFLLVLLDY

110 120 130 140 150
QGMLPVCPLIPGSSTTSTGPCRTCTTPAQGTSMYPSCCCTKPSDGNCTCI

160 170 180 190 200
PIPSSWAFAKFLWEWGSARFSWLSLLVPFVQWFVGLSPTVWLSVMWMMWY

210 220
WGPSLYRILSPFLPLLPIFFCLWVYI

Figure 27

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Figure 28 Patient I HBV nt seq

```
      10      20      30      40      50
CAACTTGTCCTGGTTATCGCTGGATGTGTCTGCGGCGTTTTATCATATTC

      60      70      80      90     100
CTCTTCATCCTGCTGCTATGCCTCATCTTCTTGTTGGTTCTTCTGGACTA

     110     120     130     140     150
TCGAGGTATGTTGCCCGTTTGTCTCTACTTCCAGGATCTTCAACCACCA

     160     170     180     190     200
GCACGGGTCCATGCAGAACCTGCACGACTCCTGCTCAAGGAACCTCTATG

     210     220     230     240     250
TATCCCTCATGTTGCTGTACCAAACCTTCGGACGGAAATTGCACCTGTAT

     260     270     280     290     300
TCCCATCCCATCATCCTGGGCTTTCGGAATAATTCCTATGGGAGTGGGCCT

     310     320     330     340     350
CAGCCCGTTTTCTCATGGCTCAGTTTACTAGTGCCATTTGTTTCAGTGGTTC

     360     370     380     390     400
GTAGGGCTTTCCCCCATGTTTGGCTTTCAGTTATGTGGATGATGTGGTA

     410     420     430     440     450
TTGGGGGCCAAGTCTGTATCGCATCTTGAGTCCCTTTTTACCGCTGTTAC

     460     470     480     490     500
CAATTTTCTTTTGTCTCTGGGTATACATTTAAACCCTCACAAAACAAAAA

     510     520     530     540     550
GATGGGGTTACTCTTTACATTTTCATGGGCTATGTCATCGGATGTTATGGG

     560
TCTTTGCCAC
```

Figure 28

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Figure 29 Patient I HBV pol

```
      10      20      30      40      50
NLSWLSLDVSAAFYHIPLHPAAMPHELLVGSSGLSRYVARLSSTSRIFNHQ
      60      70      80      90     100
HGSMQNLHDSCSRNLYVSLMLLYQTFGRKLHLYSHPIILGFRKIPMGVGL
      110     120     130     140     150
SPFLMAQFTSAICSVVRRAFPCLAFSYVDDVVLGAKSVSHLESLEFTAVT
      160     170     180
NFLLSLGIHLNPHKTKRWGYSLHFMGYVIGCYGSLP
```

Figure 29

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Figure 30 Patient I: HBsAg

10	20	30	40	50
TCPGYRWMCLRRFIIFLFILLCLIFLLVLLDYRGMLPVCPLLPGSSTTS				
60	70	80	90	100
TGPCRTCTTPAQGTSMPSCCCTKPSDGNCTCIPSSWAFGKFLWEWAS				
110	120	130	140	150
ARFSWLSLLVPFVQWFVGLSPIVWLSVMWMMWYGPSLYRILSPFLPLLP				
160	170	180		
IFFCLWVYI*				

Figure 30

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Figure 31 Patient J HBV nt seq

```
      10      20      30      40      50
CGCCTCCTCCTGCCTCCACCATCGGCAGTCAGGAAGAAAGCCTACTCCCA

      60      70      80      90     100
TCTCTCCACCTCTAAGAGACAGTCATCCTCAGGCCATGCAGTGGAAGTCC

     110     120     130     140     150
AGCACATTCCACCAAGCTCTGCTAGATCCCARAGTGAGRGGCCTATACTT

     160     170     180     190     200
TCCTGCTGGTGGCTCCAGTTCGGAACAGTAAACCCTGTTCCGACTACTG

     210     220     230     240     250
CCTCTCCCATATCGTCAATCTTCTCGAGGACTGGGGACCCTGCACCGAAT

     260     270     280     290     300
ATGGAGAGCACAACATCAGGATTCCTAGGACCCCTGCTCGTGTTACAGGC

     310     320     330     340     350
GGGGTTTTTCTTGTTGACAAGAATCCTCACAATACCACAGAGTCTAGACT

     360     370     380     390     400
CGTGGTGGACTTCTCTCAATTTTCTAGGGGGAGCACCCACGTGTCTTGGC

     410     420     430     440     450
CAAAATTTGCAGTCCCCAACCTCCAATCACTCACCAACCTCTTGTCTCTCC

     460     470     480     490     500
AATTTGTCTGCTTATCGCTGGATGTGTCTGCGGCGTTTTATCATCTTCC

     510     520     530     540     550
TCTTCATCCTGCTGCTATGCCTCATCTTCTTGKGGTTCTTCTGGACTAC

     560     570     580     590     600
CAAGGTATGTTGCCCCTTGTCTCTACTTCCAGGAACATCAACTACCAG

     610     620     630     640     650
CACGGGACCATGCAAGACCTGCACGATTCCTGCTCAAGGAACCTCTATGT

     660     670     680     690     700
TTCCCTCTTGTTGCTGTACAAAACCTTCGGACGGAAATTGCACTTGTATT
```

Figure 31

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710 720 730 740 750
CCCATCCCATCATCTTGGGCTTTCGCAAGATTCCTATGGGAGTGGGCCTC

760 770 780 790 800
AGTCCGTTTCTCCTGGCTCAGTTTACTAGTGCCATTTGTTTCAGTGGTTCG

810 820 830 840 850
TAGGGCTTTCCCCCACTGTTTGGCTTTCAGTTATATGGATGATGTGGTAT

860 870 880 890 900
TGGGGGCCAAGTCTGTACAACATCTTGAATCCCTTTTACCGCTGTTACC

910 920 930 940 950
AATTTTCTTTTGTCTTTGGGTATAACATTTAAACCCTACTAAACTAAACG

960 970 980 990 1000
TTGGGGCTACTCCCTTAACTTCATGGGATATGTAATTGGAAGTTGGGGTA

1010 1020
CCTTACCACAGGAACATATTGTACACAAA

Figure 31 continued

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Figure 32 Patient J HBV pol

10 20 30 40 50
EDWGPCTEYGEHNIRIPRTPARVTGGVFLVDKNPHNTTESRLVVDFSQFS

60 70 80 90 100
RGSTHVSWPKFAVPNLQSLTNLLSSNLSWLSLDVSAAFYHLPLHPAAMPH

110 120 130 140 150
LLVGSSGLPRYVARLSSTSRNINYQHGTMQDLHDSCSRNLYVSLLLLYKT

160 170 180 190 200
FGRKLHLYSHPIILGFRKIPMGVGLSPFLLAQFTSAICSVVRRAPPHCLA

210 220 230 240 250
FSYMDDVVLGAKSVQHLESLEFTAVTNFLLSLGIHLNPTKTKRWGYSINFM

260
GYVIGSWGTLPQEHIVHK

Figure 32

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Figure 33. Patient J HBsAg

10 20 30 40 50
MESTTSGFLGPELLVLQAGFFLLTRILTIPQSLDSWWTSLNFLGGAPTCPG

60 70 80 90 100
QNLQSPTSNHSPTSCPPICPGYRWMCLRRFIIFLFILLLLCLIFLXVLLDY

110 120 130 140 150
QGMLPVCPLLPGTSTTSTGPCKTCTIPAQGTSMFPSCCCTKPSDGNCTCI

160 170 180 190 200
PIPSSWAFARFLWEWASVRFSWLSLLVPFVQWFVGLSPTVWLSVIWMMWY

210 220
WGPSLYNILNPFLPLLPIFFCLWVYI

Figure 33

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Figure 34 Patient K HBV nt

```
      10      20      30      40      50
CTCCTCCTGCCTCCACCAATCGGCAGTCAGGAAGACAGCCTACACCCATC

      60      70      80      90     100
TCTCCACCTCTAAGAGACAGTCATCCTCAGGCCATGCAGTGGAATCCAG

     110     120     130     140     150
CACATTCCACCAAGCTCTGCTAGATCCCAGAGTGAGGGGCCTATACTTTC

     160     170     180     190     200
CTGCTGGTGGCTCCAGTTCAGGAACAGTAAACCCTGTTCCGACTACTGCC

     210     220     230     240     250
TCTCCCATATCGTCAATCTTCTCGAGGACTGGGGACCCTGCACCGAATAT

     260     270     280     290     300
GGAGAGCACCACATCAGGATTCCTAGGACCCCTGCTCGTGTTACAGGCGG

     310     320     330     340     350
GGTTTTTCTTGTTGACAAGAATCCTCACAATACCACAGAGTCTAGACTCG

     360     370     380     390     400
TGGTGGACTTCTCTCAATTTCTAGGGGGAGCACCCACGTGTCCTGGCCA

     410     420     430     440     450
AAATTTGCAGTCCCCAACCTCCAATCACTCACCAACCTCTTGTCCTCCAA

     460     470     480     490     500
TTTGTCTCTGGTTATCGCTGGATGTGTCTGCGGCGTTTTATCATCTTCCTC

     510     520     530     540     550
TTCATCCTGCTGCTATGCCTCATCTTCTTGGTTCTTCTGGACTACCA

     560     570     580     590     600
AGGTATGTTGCCCGTTTGTCTCTACTTCCAGGAACATCAACTACCAGCA

     610     620     630     640     650
CGGGACCATGCAAGACCTGCACGATTCCTGCTCAAGGAACCTCTATGTTT

     660     670     680     690     700
CCCTCTTGTTGCTGTACAAAACCTTCGGACGGAATTGCACTTGTATTCC
```

Figure 34

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```
      710      720      730      740      750
CATCCCATCATCTTGGGCTTTCGCAAGATTCCTATGGGAGTGGGCCTCAG

      760      770      780      790      800
TCCGTTTCTCCTGGCTCAGTTTACTAGTGCCATTTGTTTCAGTGGTTCGTA

      810      820      830      840      850
GGGCTTTCCCCCACTGTTTGGCTTTCAGTTATATGGATGATGTGGTATTG

      860      870      880      890      900
GGGGCCAAGTCTGTACAACATCTTGAATCCCTTTTACCGCTGTTACCAA

      910      920      930      940      950
TTTTCTTTTGTCTTTGGGTATACATTTAAACCCTRCTAAAACCAAACGTT

      960      970      980      990     1000
GGGGTTACTCCCTTAACTTCATGGGATATGTAATTGGAAGTTGGGGTACC

    1010     1020     1030
TTACCACAGGAACATATTGTACACAAAATCAAACA
```

Figure 34 continued

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Figure 35 Patient K HBV pol

10 20 30 40 50
SSCLHQSAVRKTAYTHLSTSKRQSSSGHVELQHIPPSSARSQSEGPILS

60 70 80 90 100
CWWLQFRNSKPCSDYCLSHIVNLLEDWGPCTEYGEHHIRIPRTPARVTGG

110 120 130 140 150
VFLVDKNPHNTTESRLVVD FSQFSRGSTHVS WPKEAVPNLQSLTNLLSSN

160 170 180 190 200
LSWLSLDVSAAFYHLPLHPAAMP HLLVGSSGLPRYVARLSSTSRNINYQH

210 220 230 240 250
GTMQDLHDSCSRNLYVSL LLLYKTFGRKLHLYSHPIILGFRKIPMGVGLS

260 270 280 290 300
PFLLAQFTSAICSVVRRAFP HCLAFSYMDDVVLGAKSVQHLESLEFTAVTN

310 320 330 340
FLLSLGIHLNPXKTKRWGYSLNFMGYVIGSWGTLPQEHIVHKIK

Figure 35

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Figure 36 Patient K HbsAg

10 20 30 40 50
PPASTNRQSGRQPTFISPPLRDSDHPQAMQWNSSTFHQALLDPRVRGLYFP

60 70 80 90 100
AGGSSSGTVNVPVPTTASPISSIFSRTGDPAPNMESTTSGFLGPLLVLQAG

110 120 130 140 150
FFLLTRILTIPQSLDSWWTSLNFLGGAPTCPGQNLQSPTSNHSPTSCPPI

160 170 180 190 200
CPGYRWMCLRRFIIFLFILLCLIFLLVLLDYQGMLPVCPLLPGTSTTST

210 220 230 240 250
GPCKTCTIPAQGTSMFPSCCCTKPSDGNCTCIPSSWAFARFLWEWASV

260 270 280 290 300
RFSWLSLLVPFVQWFVGLSPTVWLSVIWMMWYWGPSLYNILNPFLPLLPI

310 320 330 340
FFCLWVYI*TLLKPNVGVTPLTSWDM*LEVGVPHYRNILYTKSN

Figure 36

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Figure 37 Patient L HBV nt

```
      10      20      30      40      50
CAGTCCGGAAGGCAGCCTACTCCCTTATCTCCACCTCTAAGGGACACTCA

      60      70      80      90     100
TCCTCAGGCCATGCAGTGGAACCTCCACCACTTTCCATCAAACCTTTCAAG

     110     120     130     140     150
ATCCCAGAGTCAGGGCTCTGTACTTTCCTGCTGGTGGCTCCAGTTCAGGA

     160     170     180     190     200
ACAGTGAGCCCTGCTCAGAATACTGCCTCTGCCATATCGTCAACCTTCTC

     210     220     230     240     250
GAAGACTGGGGACCCTGTACCGAACATGGAGAACATCGCATCAGGACTCC

     260     270     280     290     300
TAGGACCCCTGCTCGCGTTACAGGCGGGGTTTTTCTCGTTGACAAAAATC

     310     320     330     340     350
CTCACAATAACCACAGAGTCTAGACTCGTGGTGGACTTCTCTCAATTTTCT

     360     370     380     390     400
AGGGGGAACACCCGTGTGTCTTGGCCAAAATTGCGAGTCCCAAATCTCCA

     410     420     430     440     450
GTCACTCACCAACTTGTTGTCCTCCAATTTGTCCTGGTTATCGCTGGATG

     460     470     480     490     500
TGTCTGCGGCGTTTTATCATCTTCCTCTGCATCCTGCTGCTATGCCTCAT

     510     520     530     540     550
CTTCTTGTTGGTTCTTCTGGACTATCAAGGTATGTTGCCGTTTGTCTCTC

     560     570     580     590     600
TAATTCCAGGATCATCAACCACCAGCACCGGACCATGCAGAACCTGCACG

     610     620     630     640     650
ACTCCTGCTCAAGGAACCTCTATGTTTCCCTCATGTTGCTGTACAAAACC
```

Figure 37

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```
      660      670      680      690      700
TACGGACGGAACTGCACCTGTATTCCCATCCCATCATCTTGGGCTTTCG

      710      720      730      740      750
CAAAATACCTATGGGAGTGGGCCTCAGTCCGTTTCTCTTGGCTCAGTTTA

      760      770      780      790      800
CTAGTGCCGTTTGTTCAGTGGTTCGTAGGGCTTCCCCCACTGTCTGGCT

      810      820      830      840      850
TTCAGTTATATGGATGATGTGGTATTGGGGGCCAAGTCTGTACAACATCT

      860      870      880      890      900
TGAGTCCCTTTATGCCGCTGTTACCAATTTTCTTTGTCTTTGGGTATAC

      910      920      930      940      950
ATTTAAACCCTCACAAAACAAAAAGATGGGGATATTCCCTTCAATTCATG

      960      970      980
GGATATGTAATTGGGGGTTGGGGCTCCTTG
```

Figure 37 continued

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Figure 38. Patient L Pol

10 20 30 40 50
EDWGPCTEHGEHRIRTPRTPARVTGGVFLVDKNPHNTTESRLVVDFSQFS

60 70 80 90 100
RGNTRVSWPKFAVPNLQSLTNLLSSNLSWLSLDVSAAFYHLPLHPAAMPH

110 120 130 140 150
LLVGSSGLSRYVARLSSNSRIINHQRRTMQNLHDSCSRNLYVSLMLLYKT

160 170 180 190 200
YGRKLHLYSHPIILGFRKIPMGVGLSPFLLAQFTSAVCSVVRRAFPHCLA

210 220 230 240 250
FSYMDDVVLGAKSVQHLESLYAAVTNFLLSLGIHLNPHKTKRWGYSLQFM

GYVIGGWG

Figure 38

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Figure 39 Patient L HBsAg

10 20 30 40 50
MENIASGLLGPLLALQAGFFSLTKILTIPQSLDSWWTSLNFLGGTPVCLG

60 70 80 90 100
QNSQSQISSHSPTCCPPICPGYRWMCLRRFIIIFLCILLCLIFLLVLLDY

110 120 130 140 150
QGMLPVCPLIPGSSTTSTGPCRTCTTPAQGTSMEFPSCCCTKPTDGNCTCI

160 170 180 190 200
PIPSSWAFAYLWEWASVRFSWLSLLVPFVQWFEVGLSPTVWLSVIWMMWY

210 220
WGPSLYNILSPFMPPLLPIFFCLWVYI

Figure 39

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10 20 30 40 50
CCTGCTGGTGGCTCCAGTTCAGGAACAGTAAACCCTGTTCCGACTACTGC

60 70 80 90 100
CTCTCCCTTATCGTCAATCTTCTCGAGGATTGGGGACCCTGCGCTGAACA

110 120 130 140 150
TGGAGAACATCACATCAGGATTCCTAGGACCCCTTCTCGTGTTACAGGCG

160 170 180 190 200
GGGTTTTTCTTGTTGACAAGAATCCTCACAATACCGCAGAGTCTAGACTC

210 220 230 240 250
GTGGTGGACTTCTCTCAATTTTCGAGGGGGAACCTACCGTGTGTCTTGGCC

260 270 280 290 300
AAAATTGCGAGTCCCCAACCTCCAATCACTCACCAACCTCCTGTCTCCA

310 320 330 340 350
ACTTGTCCTGGTTATCGCTGGATGTGTCTGCGGCGTTTTATCATMTTCT

360 370 380 390 400
CTTCATCCTGCTGCTATGCCTCATCTTCTTGTTGGTTCTTCTGGACTATC

410 420 430 440 450
RAGGTATGTTGCCCGTTTGTCTCTAATTCCAGGATCCTCAWCCACCAGC

460 470 480 490 500
ACGGGACCATGCCGAACCTGCATGACTACTGCTCAAGGAACCTCTATGTA

510 520 530 540 550
TCCCTCCTGTTGCTGTACCAAACCTACGGACGGAAATTGCACCTGTATTC

560 570 580 590 600
CCATCCCATCATCCTGGGCTTTCGGAAAATTCCTATGGGAGTGGGCCTCA

610 620 630 640 650
GCCCCGTTTCTCCTGGCTCAGTTACTAGTGCCATTTGTTCAGTGGTTCGT

660 670 680 690 700
AGGGCTTTCCCCCACTGTTTGGCTTTCAGTTATATGGATGATGTGGTATT

710 720 730 740 750
GGGGGCCAAGTCTGTAYMGCATCTTGAGTCCCTTTTTACCGCTGTTACCA

760 770 780 790 800
ATTTTCTTTTGTCTTGGGTATACATTTAAACCCTAACAAAACAAAGAGA

810 820 830 840 850
TGGGGTTACTCTCTGAATTTTATGGGTATGTCATTGGAAGTTATGGGTC

860 870 880 890 900
CTTGCCACAAGAACACATCATACAAAAAATCAAAGAATGTTTTAGAAAAC

T

Figure 40

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10 20 30 40 50
 CWWLQFRNSKPCSDYCLSLIVNLLLEDWGPCAEGEHHRIPRTPSRVTTGG
 60 70 80 90 100
 VFLVDKNPHNTAESRLVVDFSQFSRGNYRVSWPKFAVPNLQSLTNLLSSN
 110 120 130 140 150
 LSWLSLDVSAAFYHXPLHFAAMPHELLVGSSGLSRYVARLSSNSRILXHQH
 160 170 180 190 200
 GTMPNLHDYCSRNLVVSLLLLLYQTYGRKLHLYSHPIILGFRKIPMGVGLS
 210 220 230 240 250
 PFLLAQFTSAICSVVRRAFPCLAFSYMDDVVLGAKSVXHLESLEFTAVTN
 260 270 280 290
 FLLSLGIHLNPNKTKRWGYSLNFMGYVIGSYGSLPQEHIIQKIKECFRK

Figure 41

10 20 30 40 50
 PAGGSSSGTVNPVPTTASPLSSIFSRIGDPALNMENITSGFLGPLLVLQA
 60 70 80 90 100
 GFFLLTRILTIPQSLDSWWTSLNFRGGTTVCLGQNSQSPTSNNHSPTSCPP
 110 120 130 140 150
 TCPGYRWMCLRRFIIFLFILLCLIFLLVLLDYXGMLPVCPLIPGSSXTS
 160 170 180 190 200
 TGPCRTCMTTAQGTSMYPSCCCTKPTDGNCTCIPIPSSWAFGKFLWEWAS
 210 220 230 240 250
 ARFSWLSLLVPFVQWFVGLSPTVWLSVIWMMWYWGPSLYXILSPFLPLLP
 260
 IFFCLWVYI*

Figure 42

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10 20 30 40 50
CTTTCACCAAACCTCTGCAAGATCCCCCTGCTGGTGGCTCCAGTTCAGGAA

60 70 80 90 100
CAGTAAACCCTGTTCCGACTACTGCCTCTCCCTTATCGTCAATCTTCTCG

110 120 130 140 150
AGGATTGGGGACCCTGCGCGGAACATGGAGAACATCACATCAGGATTCTT

160 170 180 190 200
AGGACCCCTTCTCGTGTTACAGGCGGGGTTTTCTTGTGACAAGAATCC

210 220 230 240 250
TCACAATACCGCAGAGTCTAGACTCGTGGTGGACTTCTCTCAATTTTCTA

260 270 280 290 300
GGGGGAACCTACCGTGTGTCTTGGCCAAAATTCGCAGTCCCCAACCTCCAA

310 320 330 340 350
TCACTCACCAACCTCCTGTCCTCCAACCTGTCCTGGTTATCGCTGGATGT

360 370 380 390 400
GTCTGCGGCGTTTTATCATCTTCCTCTTCATCCTGCTGCTATGCCTCATC

410 420 430 440 450
TTCTTGTTGGTTCTTCTGGACTATCRAGGTATGTTGCCCGTTTGTCTCT

460 470 480 490 500
AATTCAGGATCCTCAACCACCAGCACGGGACCATGCCGAACCTGCATGA

510 520 530 540 550
CTACTGCTCAAGGAACCTCTATGTATCCCTCCTGTTGCTGTACCAAACCT

560 570 580 590 600
ACGGACGGAAATTGCACCTGTATTCCCATCCCATCATCCTGGGCTTTCGG

610 620 630 640 650
AAAATTCCTATGGGAGTGGGCCTCAGCCCGTTTCTCCTGGCTCAGTTTAC

660 670 680 690 700
TAGTGCCATTTGTTTCAGTGGTTCGTAGGGCTTTCCCCCACTGTTTGGCTT

710 720 730 740 750
TCAGTTATATGGATGATGTGGTATTGGGGGCCAAGTCTGYACAGCATCTT

760 770 780 790 800
GAGTCCCTTTTTACCGCGGTGACCAATTTTCTTTGTCTTTGGGTATACA

810 820 830 840 850
TTTAAACCCTAACAAAACAAAGAGATGGGGTTACTCTCTGAATTTTATGG

860 870 880 890 900
GTTATGTCATTGGAAGTTATGGGTCTTGCCACAAGAACACATCATACAA

910
AAAATCAAAGAA

Figure 43

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10 20 30 40 50
LSPNSARSPCWLLQFRNSKPCSDYCLSLIVNLLEDWGPCAEGHEHHIRIP

60 70 80 90 100
RTPSRVTGGVFLVDKNPHNTAESRLVVDFSQFSRGNYRVSWPKFAVPNLQ

110 120 130 140 150
SLTNLLSSNLSWLSLDVSAAFYHLPLHPAAMPHLLVGSSGLSRYVARLSS

160 170 180 190 200
NSRILNHQHGTMPNLHDYCSRNLVVSLLLLYQTYGRKLHLYSHPIILGFR

210 220 230 240 250
KIPMGVGLSPFLLAQFTSAICSVVRRAPFHCLAFSYMDDVVLGAKSXQHL

260 270 280 290 300
ESLFTAVTNFLLSLGIHLNPNKTKRWGYSLNFMGYVIGSYGSLPQEHIIQ

KIKE

Figure 44

10 20 30 40 50
FHQTLQDPPAGGSSSGTVNPVPTTASPLSSIFSRIGDPARNMENITSGFL

60 70 80 90 100
GPLLVLQAGFFLLTRILTIPQSLDSWWTSLNFLGGTTVCLGQNSQSPTS

110 120 130 140 150
HSPTSCPPTCPGYRWMCLRRFIIFLFILLCLIFLLVLLDYXGMLPVCPL

160 170 180 190 200
IPGSSTTSTGPCRTCMTTAQGTSMYPSCCCTKPTDGNCTCIPIPSSWAFG

210 220 230 240 250
KFLWEWASARFSWLSLLVPFVQWFVGLSPTVWLSVIWMMWYWGPSLXSIL

260
SPFLPR*PIFFCLWVYI*

Figure 45